CLAIMS

1. A homogeneous method for quantitatively or qualitatively detecting an analyte in a sample, comprising

adding to the sample a specific binding partner X, which is associated with a component of a signal-generating system; a specific binding partner Y, which is associated with a component of the signal-generating system; an analyte-specific binding partner R1 possessing specific binding sites for the specific binding partner X; and an analyte-specific binding partner R2 possessing specific binding sites for the specific binding partner Y; wherein at least one of R1 and R2 possesses more than one binding site for the respective specific binding partner which is associated with components of the signal-generating system, and;

determining the presence or amount of the analyte based upon a measurement of a signal generated by the signal-generating system.

2. The method as claimed in claim 1, wherein at least one of R1 and R2 is bound to components of the signal-generating system by way of X and Y, respectively, before a binding reaction with the analyte.

3. The method as claimed in claim 1, wherein at least one of R1 and R2 is bound to components of the signal-generating system by way of X and Y, respectively, during a binding reaction with the analyte.

4. The method as claimed in claim 1, wherein at least one of R1 and R2 is bound to components of the signal-generating system by way of at least one of X and Y, respectively, after a binding reaction with the analyte.

5. The method as claimed in claim 1, wherein R1 has at least 2 binding sites for the specific binding partner X.

6. The method as claimed in claim 1, wherein R1 has at least 5 binding sites for the specific binding partner X.

7. The method as claimed in claim 1, wherein R1 has at least 10 binding sites for the specific binding partner X.

8. The method as claimed in claim 1, wherein R1 has at least 15 binding sites for the specific binding partner X.

9. The method as claimed in claim 1, wherein R2 has at least 2 binding sites for the specific binding partner Y.

10. The method as claimed in claim 1, wherein R2 has at least 5 binding sites for the specific binding partner Y.

11. The method as claimed in claim 1, wherein R2 has at least 10 binding sites for the specific binding partner Y.

12. The method as claimed in claim 1, wherein R2 has at least 15 binding sites for the specific binding partner Y.

13. The method as claimed in claim 1, wherein R1 and R2 are one and the same analyte-specific binding partner.

14. The method as claimed in claim 1, wherein R1 and R2 are different analyte-specific binding partners.

15. The method as claimed in claim 1, wherein R1 and R2 are able to bind the analyte specifically.

16. The method as claimed in claim 1, wherein R1 or R2 is a modified analyte.

17. The method as claimed in claim 1, wherein R1's binding sites for the specific binding partner X are members of a specific binding pair.

18. The method as claimed in claim 1, wherein R1's binding sites for the specific binding partner X are haptens.

19. The method as claimed in claim 1, wherein R1's binding sites for the specific binding partner X are selected from the group consisting of biotin, digoxigenin, fluorescein, single-stranded nucleic acid chains and dinitrophenol.

20. The method as claimed in claim 1, wherein R2's binding sites for the specific binding partner Y are members of a specific binding pair.

21. The method as claimed in claim 1, wherein R2's binding sites for the specific binding partner Y are haptens.

22. The method as claimed in claim 1, wherein R2's binding sites for the specific binding partner Y are selected from the group consisting of biotin, digoxigenin, fluorescein, single-stranded nucleic acid chains and dinitrophenol.

23. The method as claimed in claim 1, wherein X and Y are one and the same specific binding partner.

24. The method as claimed in claim 1, wherein X and Y are different specific binding partners.

25. The method as claimed in claim 1, wherein X is selected from the group consisting of avidin, streptavidin, an anti-digoxigenin antibody, an anti-dinitrophenol antibody, a single-stranded nucleic acid chain, an anti-hapten antibody, an enzyme, an enzyme substrate and an antibody which is able to bind particular polypeptides, oligopeptides or enzymes specifically.

26. The method as claimed in claim 1, wherein Y is selected from the group consisting of avidin, streptavidin, an anti-digoxigenin antibody, an anti-dinitrophenol antibody, a single-stranded nucleic acid chain, an anti-hapten antibody, an enzyme, an enzyme substrate and an antibody which is able to bind particular polypeptides, oligopeptides or enzymes specifically.

27. The method as claimed in claim 1, wherein components of the signal-generating system are brought, as a result of the analyte being bound to at least one of R1 and R2, to a distance from each other which permits an interaction, in particular an energy transfer, between these components, and the magnitude of this interaction is measured.

28. The method as claimed in claim 1, wherein components of the signal-generating system are brought, as a result of the analyte being bound to R1 or R2, to a distance from each other which permits no interaction, or only very slight interaction, in particular no energy transfer or only very slight energy transfer, between these components, and the residual magnitude of this interaction is measured.

29. The method as claimed in claim 1, wherein the signal-generating system comprises microparticles.

30. The method of claim 29, wherein the microparticles are latex microparticles.

31. The method as claimed in claim 29, wherein the micorparticles comprises at least one of microparticle-associated photosensitizers and microparticle-associated chemiluminescent substances.

32. A test kit for detecting an analyte in a sample, comprising an analyte-specific binding partner R1 which possesses more than one specific binding site for the specific binding partner X, which is associated with a component of a signal-generating system, and an analyte-specific binding partner R2 which possesses more than one specific binding site for the specific binding partner Y, which is associated with the component of a signal-generating system.

33. The test kit as claimed in claim 32, further comprising at least one of specific binding partners X and Y which are associated with components of a signal-generating system.

34. The test kit as claimed in claim 32, wherein R1 has at least two binding sites for the specific binding partner X.

35. The test kit as claimed in claim 32, wherein R2 has at least two binding sites for the specific binding partner Y.